UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,731	11/20/2001	Tetsuro Shigemizu	011515	8950

23850 7590 08/21/2003

ARMSTRONG,WESTERMAN & HATTORI, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER
FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/988,731	Applicant(s) SHIGEMIZU ET AL.	
	Examiner Marlon T Fletcher	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10 and 15, are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: construction elements and circuitry tying together the inverter, the variable speed driving apparatus, and induction motor. The claim is indefinite.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, 6, 8-11, 13, and 15-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art in view of Ide et al. (6,380,655).

As recited in claims 1, 6, 17, and 18, Applicant's prior art figure 1 discloses a motor driving system for driving an induction motor (11) with a rotation frequency detector (12), wherein said induction motor drives a load, and said rotation frequency detector detects a rotation frequency of said induction motor, comprising: a variable speed driving unit (60) connected to said induction motor, wherein said variable speed driving unit rectifies (via unit 61) first 3-phase AC power to produce DC power, and converts (via unit 62) the DC power into second 3-phase AC power with a frequency, and

drives said induction motor with the second 3-phase AC power; and an inverter control unit (20) which generates a frequency instruction and a temporary current instruction based on said detected rotation frequency and a rotation frequency instruction at least, and controls said variable speed driving unit based on said frequency instruction and said current instruction, wherein correction is provided.

As recited in claim 2, Applicant's prior art figure 1 discloses the motor driving system, wherein said variable speed driving unit comprises: a rectifying unit (61) which rectifies the first 3-phase AC power in response to said current instruction to produce the DC power.

As recited in claim 16, Applicant's prior art figure 1 discloses the inverter control apparatus, wherein said control signal generating section (27) multiplies said input signal and a reciprocal of a ratio of said frequency component to said input signal and generates said control signal based on the multiplication result.

Applicant's prior art figure 1 does not disclose capacitance in conjunction with the apparatus.

However, as recited in claims 1, 6, 8, 10, 13, 15, 17, and 18, Ide et al. disclose a motor driving system for driving an induction motor (1) with a rotation frequency detector, wherein said induction motor drives a load, and said rotation frequency detector detects a rotation frequency of said induction motor, comprising: a variable speed driving unit (column 7, lines 36-55) connected to said induction motor and having a capacitance (63) at output, wherein said variable speed driving unit rectifies first 3-phase AC power to produce DC power, and converts the DC power into second 3-phase AC power with a frequency, and drives said induction motor with the second 3-phase AC power(column 7, lines 25-31); and an inverter control unit (64) which generates a frequency instruction and a temporary current instruction based on said detected rotation frequency and a rotation frequency instruction at least, corrects said temporary current instruction based on at least one of first correction depending on said capacitance (abstract; and column 7, lines 31-35) and

second correction depending on a predetermined frequency component of said temporary current instruction to produce a current instruction, and controls said variable speed driving unit based on said frequency instruction and said current instruction, wherein correction is provided, wherein a frequency instructing section which generates a torque instruction based on a rotation frequency of said induction motor and a rotation frequency instruction at least and controls the frequency of the second 3-phase AC power based on said torque instruction and the rotation frequency of said induction motor (column 6, lines 36-41).

As recited in claim 2, Ide et al. disclose the motor driving system, wherein said variable speed driving unit comprises: a rectifying unit (61) which rectifies the first 3-phase AC power in response to said current instruction to produce the DC power; and a current type inverter having said capacitance at the output, wherein said current type inverter converts the DC power into the second 3-phase AC power with the frequency in response to said frequency instruction (column 7, lines 18-25).

As recited in claim 3, Ide et al. disclose the motor driving system, wherein said inverter control unit comprises: a first correcting section which corrects said temporary current instruction for current flowing into said capacitance in said first correction to produce said current instruction (column 7, lines 31-35).

As recited in claim 5, Ide et al. disclose the motor driving system, wherein said inverter control unit comprises: a second correcting section which corrects said temporary current instruction based. on a second correction factor in said second correction to produce said current instruction, wherein said second correction factor is determined such that said predetermined frequency component is set to a predetermined value (column 7, lines 43-64).

As recited in claim 9, Ide et al. disclose the inverter control apparatus, wherein said current instructing section further corrects said corrected current instruction such that a predetermined

frequency component of said corrected current instruction is set to a predetermined value (column 7, lines 46-55) wherein the maximum power generating rate is based on a predetermined value.

As recited in claim 11, Ide et al. disclose the inverter control apparatus, wherein said control signal is determined based on parameters associated with a rotor and a stator of said induction motor (column 3, lines 46-60; and column 4, lines 24-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Ide et al. with applicant's prior art, because Ide et al. brings in the use of capacitance, wherein energy is stored and supplied back to circuit for better controlling the motor.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hammond et al. (6,313,600)

Allowable Subject Matter

4. Claims 4, 7, 12, and 14, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 703-308-0848. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where

this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Marlon T Fletcher
Primary Examiner
Art Unit 2837

MTF
August 11, 2003